

REMARKS/ARGUMENTS

Claims 25 - 48 remain pending herein. Claims 29 - 48 have been withdrawn from consideration by the U.S. PTO.

Claims 25 and 26 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,772,980 (Sul '980).

Claims 25 and 26 are each directed to a porous zeolite shaped body of a zeolite comprising a porous zeolite shaped body. The expression "shaped body" is used in the specification and claims in accordance with the well-known meaning ascribed to it by persons of ordinary skill in the art, to refer to three-dimensional structures formed from materials including the zeolite, the structures including pores defined between different zeolite particles. The porous zeolite shaped body of claim 25 is made of a completely crystallized zeolite (original specification, page 21, lines 1-4) and having a TPA/SiO₂ ratio of 0.015 to 0.08 by mole. The porous zeolite shaped body of claim 26 is made of a zeolite still under crystallization (original specification, page 21, lines 5-9) and having a TPA/SiO₂ ratio of 0.02 to 0.12 by mole.

Sul '980 discloses a *fibrous* zeolite and a preparation method thereof (Sul '980, Abstract). Throughout the description in Sul '980, the zeolite according to the invention is described as being fibrous. Persons of skill in the art would readily understand the fibrous zeolite of Sul '980 to be a solid material and not a porous zeolite shaped body as recited in claims 25 and 26. Persons of skill in the art would readily understand that the zeolite according to Sul '980 does not have three-dimensional structures formed from materials including the zeolite, the structures including pores defined between different zeolite particles.

It is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

Claims 25 and 26 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,413,975 (Mueller '975).

Mueller '975 discloses fixing zeolite crystals on moldings. Mueller '975 does not disclose structures in which particles of zeolite are deposited on a molding and built up three-dimensionally in a thickness so as to result in a porous zeolite shaped body in which three-dimensional structures are formed from materials including the zeolite, the structures including pores defined between different zeolite particles.

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

Claims 25 and 26 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,824,617 (Lai '617).

Lai '617 discloses a zeolite membrane comprised of a zeolite layer on a support. The support, which can be porous or non-porous, is selected from the group of materials listed in column 2, lines 33-38. Zeolite is not included among the materials among out of which the support can be made according to Lai '617.

Accordingly, in Lai '617, zeolite is used only to produce zeolite membranes, which are not porous zeolite shaped bodies. Moreover, such membranes are not three-dimensional structures formed from materials including the zeolite, the structures including pores defined between different zeolite particles.

Accordingly, it is respectfully requested that the U.S. PTO reconsideration and withdraw this rejection.

Claims 25-28 were rejected under 35 U.S.C. §103(a) over WO 00/23378 in view of Lai '617.

WO 00/23378 discloses a zeolite composite membrane in which a zeolite membrane is formed on a porous substrate made of zeolite. The Office Action contains an

acknowledgment that WO 00/23378 does not disclose the TPA/SiO₂ range for the porous zeolite shaped body recited in claim 25 or for the porous zeolite shaped body recited in claim 26.

The Office Action refers to disclosure in Lai '617 relating to preparation of a zeolite *membrane*, and asserts that it would have been obvious to employ the TPA/silica ratio disclosed in Lai '617 for making membranes to modify the composition of WO 00/23378. It is respectfully noted that the TPA/SiO₂ ratios recited in claims 25 and 26 relate to the porous zeolite shaped body. It would not have been obvious to modify WO 00/23378 by employing the TPA/silica ratio disclosed in Lai '617 in making the porous substrate of WO 00/23378, because the disclosure of TPA/silica ratio in Lai '617 relates to preparation of a zeolite *membrane*, not to preparation of a *porous substrate* made of zeolite. Persons of skill in the art would have had no reason to expect that a zeolite composition disclosed in WO 00/23378 as being suitable for forming a membrane would be effective for forming a porous substrate made of zeolite.

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

Claims 25-28 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,037,292 (Lai '292) in view of Lai '617.

Lai '292 discloses compositions having a first zeolite layer in contact with a second zeolite layer (Lai '292, column 2, lines 35-37). Lai '292 discloses an embodiment in which the composition contains a porous substrate in contact with one of the zeolite layers contained in a zeolite membrane comprising at least two zeolite layers (Lai '292, column 2, lines 39-46).

As noted above, the TPA/SiO₂ ratios recited in claims 25 and 26 relate to the porous zeolite shaped body. As also noted above, Lai '617 relates to preparation of a zeolite

membrane. Lai '617 does not contain disclosure which would have motivated one of skill in the art to employ the TPA/silica ratio disclosed therein in the manufacture of a porous zeolite shaped body. It would not have been obvious to modify Lai '292 by employing the TPA/silica ratio disclosed in Lai '617 in making the porous substrate of Lai '292, because the disclosure of TPA/silica ratio in Lai '617 relates to preparation of a zeolite membrane, not to preparation of a porous substrate. Persons of skill in the art would have had no reason to expect that a zeolite composition disclosed in WO 00/23378 as being suitable for forming a membrane would be effective for forming a porous substrate.

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

In view of the above, claims 25-28 are in condition for allowance.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,



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